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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,991	07/21/2006	**Carin Vorde**	P71362US0	9238

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EXAMINER	
CHAN, HENG M	

ART UNIT	PAPER NUMBER
4181	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,991	VORDE ET AL.	
	Examiner	Art Unit	
	HENG M. CHAN	4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,14 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,14 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment filed December 23, 2008 has been entered. Claims 1-9 remain pending in the application. Claims 10-13 are canceled. Claims 14 and 15 are new.

Claim Objections

Claim 7 is objected to because claim 7 appears to depend on claim 1 but does not clearly indicate dependency. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,976,483 to Langlet et al., herein after Langlet I.

Regarding claims 1-2, see the reasons stated in section claim rejections – 35 USC § 102 in the previous office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patents 5,976,483 to Langlet et al. (herein after Langlet I) as applied to claims 1-2 above, and further in view of US Patent 6,291,711 to Langlet (herein after Langlet II).

Regarding claims 3-6, see the reasons stated in section claim rejections – 35 USC § 103 in the previous office action and argument below.

Regarding claim 9, Langlet I teaches that a dinitramide salt, ADN, for example, can be prepared from another dinitramide salt like KDN (see column 4, lines 6) and Langlet II teaches that guanylurea dinitramide can be made from a guanylurea salt and ADN (see example 1). It would have been obvious to one of ordinary skill in the art at the time of invention to substitute the dinitramide salt (ADN) with the separated precipitate (guanylurea dinitramide) in the method of Langlet I and arrive at a different dinitramide salt as taught in Langlet II, motivated by the fact that it is a simple ion exchange process.

Langlet I does not expressly teach that the added positive ion from step (2) is recovered and is re-used in the production of dinitramide salts.

Langlet II indicates that suitable guanylurea salts that can be used in the preparation [for guanylurea dinitramide] are those that can be dissolved in water and a certain acidification of the water may be required to make the salt dissolved (column 3, lines 16-19 and Example 1). This suggests that the guanylurea salt (i.e. the added positive ion from step (2)) that remains in solution after the recovery of guanylurea

dinitramide in Example 1, for example, is not soluble in a basic aqueous solution and thus can be recovered by basifying the solution.

One of ordinary skill in the art at time of invention would have appreciated recovering and reusing the guanylurea salts in the production of more dinitramide salts in order to recycle the material by a simple precipitation recovery process as suggested by Langlet II.

Claims 7-8 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langlet I and Langlet II, as combined above, in further view of US Patent No. 4,559,409 to Seyerl.

Regarding claims 7-8, see the reasons stated in section claim rejections – 35 USC § 103 in the previous office action and argument below.

Regarding claim 14, Langlet I teaches a method of producing a salt of dinitramidic salt (column 1, lines 4-14, 52-67), comprising:

- Nitrating a compound (ammonium sulfamate-see example 7), with a mixture of nitric acid/sulphuric acid (NH_3/H_2SO_4) to form a reaction mixture;
- Mixing a neutralising agent with the reaction mixture from step (1) to form a precipitate in the reaction mixture; and
- Separating the precipitate from step (2) from the reaction mixture.

Langlet I does not expressly teach mixing cyanoguanidine (as a neutralizing agent) with the reaction mixture.

Seyerl teaches reacting dicyanodiamide, same as cyanoguanidine, with sulfaminic acid (NH_2SO_3H) in an aqueous or organic-aqueous medium to form the corresponding guanylurea salt (abstract and column 1, lines 45-47). Langlet II teaches that a guanylurea salt is used to make guanylurea dinitramide in Examples 1 and 2.

Since sulfaminic acid is one of the named compounds named in Langlet I's teaching, it would have been obvious to one of ordinary skill in the art at time of invention to have modified the method provided by Langlet I, as demonstrated by Langlet II and Seyerl, by mixing cyanoguanidine (as a neutralizing agent) in the reaction mixture containing sulfaminic acid or other similar compounds to form a precipitate (guanylurea dinitramide).

Regarding claim 15, claim 15 differs from claim 14 in mixing guanylurea nitrate (as a neutralizing agent) instead of cyanoguanidine with the reaction mixture from step (1). Seyerl teaches that reacting dicyanodiamide, same as cyanoguanidine, with sulfaminic acid (NH_2SO_3H) in an aqueous or organic-aqueous medium forms the corresponding guanylurea salt (abstract and column 1, lines 45-47). Since guanylurea salts have shown by Langlet II to be used to prepare dinitramidic salts, it would have been obvious to one of ordinary skill in the art at time of invention to have used any guanylurea salt (e.g. guanylurea nitrate) in place of cyanoguanidine in the method provided by Langlet I and obtained an expected level of success, motivated by the fact that using a guanylurea salt instead of its precursor, cyanoguanidine, could reduce the reaction steps and ensure a higher yield and higher purity of the guanylurea dinitramide precipitate.

Response to Arguments

Applicant's arguments filed December 23, 2008 have been fully considered but they are not persuasive.

The applicant argues that a salt of dinitramidic acid of the present invention is precipitated from an acidic reaction mixture and that Langlet I discloses a process for making a dinitramidic salt from a neutral or weakly basic reaction mixture. Langlet I teaches that neutralisation (i.e. adding a neutralizing agent) is preferably carried out directly from the mixture obtained after nitration (column 3, lines 24-25) and continues until the solution is weakly basic (column 4, lines 66-67). That is, the neutralising agent is added to the acidic reaction mixture when the reaction mixture is acidic and the dinitramidic salt begins to precipitate and continues until the solution is weakly basic (i.e. neutralization completed). This does not differ from the present invention that depending on at which time point the precipitation is observed, it can be considered to occur when the reaction mixture is acidic, neutral, or weakly basic. Therefore, claim 1 remains rejected under 35 U.S.C. 102(b) as being anticipated by Langlet I. It is also noted the reaction mixture is neutralized at a pH of 7 $\pm$ 1 (this encompasses an acidic pH (example 7)) and that ADN is separated from the neutralized solution. In view of this Langlet I does in fact anticipate the claimed invention.

With respect to the rejection based on Langlet I in view of Langlet II, applicants argue that since Langlet I does not anticipate claim 1, the combination is not proper. This is not persuasive because (1) as defined above, Langlet I does in fact anticipate the claimed invention and (2) they amount to a general allegation that the claims define

a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references (i.e. provide no specific reasons why the combination is improper).

With respect to the rejection based on Langlet I in view of Langlet II and Seyerl, applicant's arguments are not persuasive because (1) they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references (i.e. provide no specific reasons why the combination is improper).

With respect to the arguments based on claim 9, as amended, these are not persuasive because as clearly outlined above, the limitations of claim 9 are obvious.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENG M. CHAN whose telephone number is (571)270-5859. The examiner can normally be reached on Monday to Friday, 8:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL MARCHESCHI/
Primary Examiner, Art Unit 1793

HMC